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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/052,518 | 01/23/2002 | Kazuma Sekiya | 33773M033 | 4965 |
| 441 | 7590 | 07/23/2004 | EXAMINER | |
| SMITH, GAMBRELL & RUSSELL, LLP 1850 M STREET, N.W., SUITE 800 WASHINGTON, DC 20036 | | | ELEY, TIMOTHY V | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3724 | |

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/052,518 | Applicant(s) SEKIYA, KAZUMA | |
| | Examiner Timothy V Eley | Art Unit 3724 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Satran et al(6,488,456).

a. Satran et al disclose a method of detachably mounting a rotating tool(14) provided with an attachment portion to a mounting portion(16,116) having a cylindrical outer circumferential surface of a spindle, comprising the steps of: making the inner diameter at normal temperatures of the attachment portion smaller than the outer diameter at normal temperatures of the mounting portion; and heating the attachment portion to make the inner diameter of the attachment portion larger than the outer diameter of the mounting portion so as to fit the attachment portion onto the mounting portion. See figures 3 and 4, and column 4, lines 26-41.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satran et al in view of Kramer et al(5,277,435).

a. Satran et al is explained above.

b. Satran et al does not specifically disclose that at least the mounting portion of the spindle is made of metal, nor that at least the attachment portion of the rotating tool is made of metal. However, Satran et al further discloses that the cutter portion(rotating tool) must be formed of a material having thermal characteristics such that the application of heat thereto causes thermal expansion thereof, thus allowing the support member of the body portion(spindle) to be positioned inside the cutter portion. See column 1, lines 58-64.

c. Kramer et al discloses that it is well known in the art to attach a cutting tool to a spindle by using a metal(shape-memory alloy) having thermal characteristics such that the application of heat thereto causes thermal expansion thereof. See column 5, lines 45-51; column 6, lines 47-65; and column 8, lines 50-63.

d. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have

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modified the method of Satran et al by making the attachment portion of the rotating tool out of metal, whereby the attachment portion may be heated in order to make the inner diameter thereof larger than the outer diameter of the mounting portion so as to fit the attachment portion onto the mounting portion. To make at least the mounting portion of the spindle out of metal would have been obvious to one having ordinary skill in the art at the time the invention was made since that portion of the spindle is to be placed in contact with the metal of the attachment portion as modified and must support the forces applied thereto by the attachment portion once it is shrunk-fit thereon.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satran et al in view of Kramer et al as applied to claim 1 above, and further in view of applicant's admitted prior art (APA).

a. Satran et al in view of Kramer et al is explained above.

b. Satran et al, as modified, does not disclose the rotating tool comprising a thin annular cutting blade secured to a metal hub, the hub being provided with the attachment portion and the cutting blade containing diamond grains.

c. The APA discloses a rotating tool mounted to a spindle wherein the rotating tool comprises a metal hub and a thin annular cutting blade secured to the hub, the cutting blade containing diamond grains.

d. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have

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further modified the Satran et al method by replacing the cutting inserts(which are mounted to a hub) therein with a thin annular cutting blade secured to the hub, the cutting blade containing diamond grains as taught by the APA in order to provide an alternate stronger cutting arrangement, and in order to eliminate a multiplicity of parts.

Response to Arguments

6. Applicant's arguments, filed December 15, 2003, with respect to Kramer et al have been fully considered and are persuasive. The previous rejections of claims 1-4 which used Kramer et al have been withdrawn.

7. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

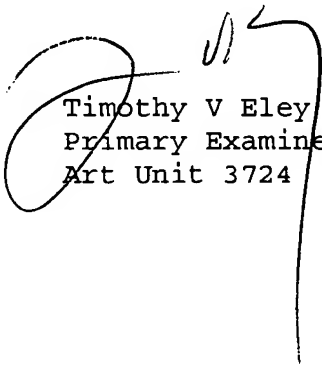
Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 703-308-1824. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 703-308-1082. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy V Eley
Primary Examiner
Art Unit 3724

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